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ABSTRACT

This report describes the development and operation of BARDS, the Bucknell Automated Retrieval and Display System, an online bibliographic access system for a selected section of the collection at the Ellen Clarke Bertrand Library. This system was used by the Bucknell University community from June 1974 through January 1975; further development was suspended due to lack of funds. Data elements used and access points are described, and a listing of computer equipment needed to support the system is included. (RAO)

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Bucknell Automated Retrieval and Display System

by

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

March 1975

IR006982

ABSTRACT

BARDS (Bucknell Automated Retrieval and Display System) was developed to provide on-line bibliographical access to a selected section of the collection of the Ellen Clarke Bertrand Library from remote terminals. Its simple commands can be quickly mastered by users. Keyword access combined with a browsing option offers an economical substitute for search by pre-assigned subject headings. The system was in use by the Bucknell University community from June 1974 through January 1975.

Figure 1 Sigma-7 Computer equipment description

2 File structure of BARDS

3 Natural language request with browse option

4 Access by author

5 Access by title

6 Access by ISBN and author/title

7 Access by Library of Congress card number

8 Access by call number followed by user's comments

9 Report on natural language requests

10 Performance monitoring report

11 Users' comments

12 Summary of use

13 Retrieval of uncataloged government documents

INTRODUCTION

The Ellen Clarke Bertrand Library of Bucknell University serves a faculty of approximately 220 members, a resident student body of about 3,000, some 350 students and faculty of nearby institutions, and 900 residents of the area. At the end of June 1974 the number of volumes, excluding periodicals, had reached 354,824 (219,061 titles). The collection is broad-based, supporting an undergraduate program in liberal arts, management, and engineering, as well as serving faculty research needs and recreational interests of the academic community as a whole.

Bucknell's Freas-Rooke Computer Center maintains a Xerox Sigma-7 computer with core memory of 98K expandable to 128K (Figure 1). Some thirty-five teletype terminals for faculty and student use are located on campus in classrooms and dormitories. The library staff has access to two CRT's which can operate at speeds of ten characters/second or thirty characters/second.

BARDS (Bucknell Automated Retrieval and Display System) had its genesis in BLOCS (Bucknell Library On-line Circulation System) in which key elements of every shelf list entry had been converted to machine-readable form to support the automated circulation system put into operation in 1972. [1,2]

DATA ELEMENTS (BLOCS)

The machine-readable shelf list consists of the following data in variable fields:

1) call number (Library of Congress classification system)
2) main entry
   a) surname - last name in full, initials for first names, dates omitted
   b) forename entry - in full, dates omitted
   c) uniform title - in full
   d) corporate - in full, no abbreviations or truncations
3) title - sub-title omitted in most instances
4) publication date if available
5) location if other than main collection, e.g., Reference, Special Collections
6) extension field for copy or volume number
7) Library of Congress card number (for books added after November 1971)
8) International Standard Book Number (for books added after November 1971)

In order to keep the original conversion within realizable limits the decision had been made to convert the above elements only and not to include subject headings. It was hoped that at some future date complete records in MARC format would be available from some outside source. However, once this brief shelf list was machine-readable, the library staff began to explore ways to expand its use beyond basic circulation functions.

Figure 1
Sigma-7 Computer Equipment Description

8401	Central Processing Unit
8421	Priority Interrupts
8451	(6) 16K x 32 bit Word Memory Modules (3 way access)
8477	1 Multiplexor Input/Output Processor
8485	Selector Input/Output Processors
7012	Operator Console
7140	Card Reader & Controller (1500 CPM)
7165	Card Punch & Controller (100 CPM)
7211	RAD Controller
7212	Swapping Rad (5.2 mega-byte storage)
7240	Disc Pack Controller
7241	(8) Removable Disc Pack Drives (200 mega-byte file storage)
7320	Magnetic Tape Drive Controller
7322	(2) Magnetic Tape Drives (9 track)
7444	Line Printer & Controller (1500 lpm)
7530	12" Digital Plotter & Controller
7601	Remote Batch Terminal Controller
7611	Character Oriented Communications Controller
7670	Remote Batch Terminals

DEVELOPMENT OF BARDS

A proposal was made to the Council of Library Resources and a grant of $28,000 received in June 1973 for the purpose of developing an on-line bibliographic retrieval system based on the existing machine-readable shelf list. Our goal was the development of a retrieval system simple enough for students from all disciplines to master with a minimum of instruction. We had neither the resources nor the intention of reproducing a duplicate of the card catalog in machine-readable form, as subject headings, added entries and cross-references were lacking in the machine-readable data. Instead we sought the development of a system which could expand or enhance the capabilities offered by the card catalog. With computer terminals available in many areas on campus, access to bibliographic information concerning the library's resources could be extended beyond the constraints of time and place inherent in the use of the traditional card catalog. An on-line shelf list, available nearly twenty-four hours daily and seven days weekly, could offer: access to bibliographic information after normal library hours, and access to bibliographic information in locations other than the library. It would be possible to check the bibliographic records of the library at any time, day or night, from a dormitory, a laboratory, or even from home by means of a portable terminal available from the Computer Center.

Since subject headings had not been one of the elements converted to machine-readable form, different approaches to subject retrieval were explored. Experiments carried on in a number of institutions in retrieval by keyword were watched with interest since we hoped that a search by keyword linked to the capability of browsing through titles in shelf list order could replace to some extent the traditional approach through assigned subject headings.

A number of on-line retrieval systems were observed on site, notably SUPARS (Syracuse University Psychological Abstracts Retrieval Service), MEDLINE at the College of Physicians and Surgeons in Philadelphia, and BALLOTS at Stanford University.[3-4] From August 1972 to February 1973 the Ellen Clarke Bertrand Library had on-line access to both LEADERMARC and LEADERMART systems at Lehigh University.[5-6] The on-line circulation systems at Northwestern University and at Ohio State University were both observed, with special attention given to their methods of information retrieval from circulation records. Among the most useful articles found in literature searches were those by F. G. Kilgour and his staff at the Ohio College Library Center concerning algorithms for truncated search keys.[7-10] The BROWSER system as described by *J. H. Williams, Jr.*, a study by *J. A.* Hudson comparing the use of key words and class numbers, another study on keywords by D. H. Kraft as well as a study on title searches by W. L. Miller also proved to be useful.[11-14]

The original intention of the BARDS project was on-line

access to the entire shelf list of some 200,000 titles. For this purpose a large disc of 9GK granules compatible with the Sigma-7 was ordered. When the manufacture of such a disc failed to materialize, we were forced to lower our sights and proceed with a smaller disc capable of storing approximately 65,000 titles. The possible use of several smaller discs instead of one large disc was complicated by the fact, that although some of the programs were written in FORTRAN, many are in machine language. The management system in use in 1975 (IMS) could not manage two disc packs at a time.

Because biology and psychology are both disciplines with high enrollment, the decision was made to offer a test data base consisting of the library's entire holdings in biology and psychology augmented by all new acquisitions added during the past year as well as some 1,000 uncatalogued government documents selected for their general interest. The data base was created from the machine-readable shelf list used in our circulation system. It is with this data base that BARDS is presently being used and evaluated.

ACCESS POINTS

The file structure of BARDS is shown in figure 2. The shelf list record available from BLOCS consists of variable fields recognizable by their order of sequence, rather than specific tags. MARC tapes can be used to convert a record into BLOCS BARDS format. Call number always occupies the first field,

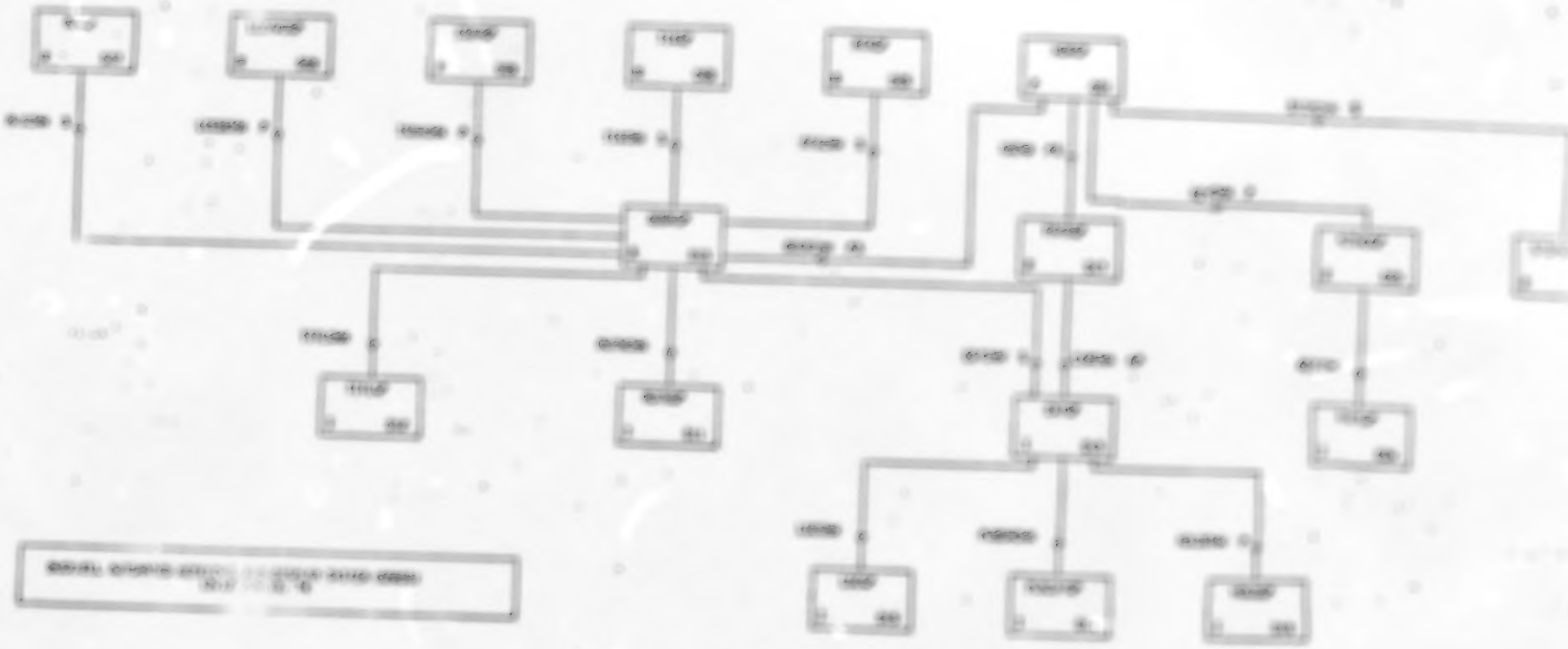

Figure 3

author second, title third, etc. In the case of a title main entry, the author field is present but contains a field tag followed by blanks. Provision was made for the eventual linking of BARDS with BLOCS so that a user could have access not only to bibliographic data but also to circulation information. However, security restrictions would be maintained to protect the privacy of the borrower.

Nine access points have been provided. For each item retrieved, the minimum display consists of call number, author and title.

Access point	Command
1) Word or words found in authors or titles of works in the data base. A stop list excludes a few non-distinctive words.	Natural language.
2) Author or main entry	/A
3) Title (either as title main entry or normal title)	/T
4) Author and title	/AT
5) Call number	/C
6) Library of Congress card number	/L
7) International Standard Book Number	/I
8) Comments by user	/N
9) Borrower	/B

No. 9 is currently inactive as borrower I.D.'s have not yet been added to the BARDS data base.

DIALOG

Examples of the dialog between user and computer are shown in figures 3 - 8. Every effort was made to keep the dialog simple and easy to use. A short tutorial covering only the most basic instructions needed to use BARDS is available on-line for a user who requests it. Copies of the tutorial are also available at computer terminal locations and at the Reference Desk in the library.

The commands noted on the preceding pages produce the following displays:

NATURAL LANGUAGE - A listing of the number of occurrences of each word requested is displayed. The user then has the option of requesting retrieval of items found or entering a new request. If retrieval is selected, the number of matches found is given followed by a display of the first match. The user then has the following options:

a) NEXT WORK - The user may request display of next citation arranged in classification order.

b) BROWSE - User may request display of citations forward or backward in classification order from the call number of the last item displayed. The user may scan, one item at a time, ad infinitum. The use of this option is one of the most important features of BARDS as it allows a user to find titles which do not contain the requested keyword but which are, nevertheless, relevant to subject requested. In other

```
** GOOD AFTERNOON!

** BUCKNELL AUTOMATED RETRIEVAL & DISPLAY SYSTEM AT YOUR COMMAND **

** MY FILES WERE LAST UPDATED: 08 JUN 74  1319


** DO YOU WANT INSTRUCTIONS(YES OR NO)
?N

** PLEASE ENTER YOUR REQUEST:
?EXTRASENSORY AND PERCEPTION

** TERM **        ** OCCURS **

 EXTRASENSORY            1
 PERCEPTION             72

** SHALL I BEGIN DISPLAYING BOOKS...
?

-- NOW RETRIEVING YOUR ITEMS...
-- ITEMS RETRIEVED:  1

  BF1171 .C56
  C I B A FOUNDATION
  C I B A FOUNDATION SYMPOSIUM ON EXTRASENSORY PERCEPTION

-- ITEMS DISPLAYED:  1

** DO YOU WISH TO BROWSE (B), EXAMINE LAST WORK DISPLAYED (E),
   ENTER A NEW REQUEST (R), OR QUIT (Q)...
?B

** DO YOU WISH TO BROWSE FORWARD (F) OR BACKWARD (B)
   FROM THE LAST WORK DISPLAYED...
?F

  BF1171 .E33
  EHRENWALD, J
  NEW DIMENSIONS OF DEEP ANALYSIS

** NEXT WORK...
?

  BF1171 .H43 1961
  HEYWOOD, R
  BEYOND THE REACH OF SENSE

** NEXT WORK...
?Y

  BF1171 .M3
  MCCONNELL, R A
  E S P CURRICULUM GUIDE

** NEXT WORK...
?

  BF1171 .P7
  PODMORE, F
  APPARITIONS AND THOUGHT TRANSFERENCE

** NEXT WORK...
```

Figure 3

```
** DO YOU W ISH TO ENTER NEW REQUEST (YES OR NO).
?Y

** PLEASE ENTER YOUR REQUEST:
?/A

** ENTER AUTHOR:
?SOYINKA, W

— MATCHES FOUND:   3

  HV9849 .N5S68
  SOYINKA, W
  MAN DIED

** NEXT W OR K...
?Y

  PR6069 .O 9S5 1972B
  SOYINKA, W
  SHUTTLE IN THE CRYPT

** NEXT WO RK.. .
?

  PR9387.9 .S6M3 1972
  SOYINKA, W
  MADMEN AND SPECIALISTS

— WORKS DISPLAYED:  3

** DO YOU WISH COMPLETE INFORMATION ON LAST WORK DISPLAYED...
?N

** DO YOU WISH TO ENTER NEW REQUEST (YES OR NO).
?N

** IT HAS BEEN A PLEASURE SERVING YOU. GOOD AFTERNOON!


** AFTER THE NEXT "!" TYPE IN "OFF", THEN PLEASE TURN OFF
** THE TERMINAL AND HANG UP THE PHONE
 *EXIT*

!OFF
```

Figure 4

```
** PLEASE ENTER YOUR REQUEST:
?/T

** ENTER TITLE:
?CATALOGUE OF INCUNABULA AND SIXTEENTH CENTURY PRINTED BOOKS

-- MATCHES FO UND:  1

 Z6659 .U 592X
 U.S. NATIONAL LIBRARY OF MEDICINE
 CATALOGU E OF INCUNABULA AND SIXTEENTH CENTURY PRINTED BOOKS IN THE N
ATIONAL LIBRARY OF MEDICINE.

-- WORKS DISPLAYED:  1

** DO YOU WISH COMPLETE INFORMATION ON LAST WORK DISPLAYED...
?N

** DO YOU WISH TO ENTER NEW REQUEST (YES OR NO).
?Y

** PLEASE EN TER YOUR REQUEST:
?EXCEPTIONAL AND (CHILD OR CHILDREN)

** TERM **       ** OCCURS **

 EXCEPTIONAL          25
 CHILD               307
 CHILDREN            321

** SHALL I BEGIN DISPLAYING BOOKS...
?

-- NOW RETRIEVING YOUR ITEMS...
-- ITEMS RETRIEVED: 23

 RJ499 .A1T7 1972
 TRAPP, E P
 READINGS ON THE EXCEPTIONAL CHILD

** NEXT WO RK...
?

 RJ499 .E9X

 EXCEPTIO NAL CHILD

** NEXT WO RK...
?

 HQ773 .R6
 ROSS, A O
 EXCEPTIONAL CHILD IN THE FAMILY

** NEXT WO RK...
?

 LC3965 .D8 1973
 DUNN, L M
 EXCEPTIONAL CHILDREN IN THE SCHOOLS
```

Figure 5

```
** PLEASE ENTER YOUR REQUEST:
?/I

** ENTER ISBN:
?0-374-12074-9

  RC504 .R4513 1972
  REICH, W
  CHARACTER ANALYSIS

-- WORKS DISPLAYED:  1

** DO YOU W ISH COMPLETE INFORMATION ON LAST WORK DISPLAYED...
?Y

  RC504 .R4513 1972
  REICH, W
  CHARACTER ANALYSIS
  * PUB DATE: 1972
  * HOME LOC: STACKS
  * LOAN PER: 7 (3 WK)
  * ENTRD DB: 18 APR 74
  * DUE DATE: NONE
  * HOLDS   : NONE

-- VOLS DISPLAYED:  1

** DO YOU  W ISH TO ENTER NEW REQUEST (YES OR NO).
?Y

** PLEASE ENTER YOUR REQUEST:
?/AT

** ENTER AUTHOR:
?VIDAL

** ENTER TITLE:
?BURR

-- MATCHES FO UND:  1

  PS3543 .I26B8
  VIDAL, G
  BURR

-- WORKS DISPLAYED:  1

** DO YOU  W ISH COMPLETE INFORMATION ON LAST WORK DISPLAYED...
?N
```

Figure 6

```
** PLEASE TYPE IN YOUR NAME IN THE FORM SMITH JOHN C.
?RIVOIRE HELENA G

 ** GOOD MO RNINGI

 ** BUCKNELL AUTOMATED RETRIEVAL & DISPLAY SYSTEM AT YOUR COMMAND **

 ** MY FILES WERE LAST UPDATED: 14 JUN 74  0444


 ** DO YOU WANT INSTRUCTIONS(YES OR NO)
 ?N

 ** PLEASE EN TER YOUR REQUEST:
 ?/L

 ** ENTER LC CARD NO.:
 ?72-9989

   BF455 .S94 1972
   SYMPOSIUM ON COGNITION, 8TH, CARNEGIE - MELLON UNIVERSITY, 1972
   VISUAL INFORMATION PROCESSING

 -- WORKS DISPLAYED:  1

 ** DO YOU WISH COMPLETE INFORMATION ON LAST WORK DISPLAYED...
 ?Y

   BF455 .S94 1972
   SYMPOSIUM ON COGNITION, 8TH, CARNEGIE - MELLON UNIVERSITY, 1972
   VISUAL INFORMATION PROCESSING
   * PUB DATE: 1973
   * HOME LOC: STACKS
   * LOAN PER: 7 (3 WK)
   * ENTRD DB: 18 APR 74
   * DUE DATE: NONE
   * HOLDS    : NONE

 -- VOLS DISPLAYED:  1

 ** DO YOU W ISH TO ENTER NEW REQUEST (YES OR NO).
 ?Y
```

Figure 7

```
** PLEASE TYPE IN YOUR NAME IN THE FORM SMITH JOHN C.
?RIVOIRE HELENA

** GOOD AFTERNOON!

** BUCKNELL AUTOMATED RETRIEVAL & DISPLAY SYSTEM AT YOUR COMMAND **

** MY FILES WE RE LAST UPDATED: 17 JUN 74  1945


** DO YOU WANT INSTRUCTIONS(YES OR NO)
?N

** PLEASE EN TER YOUR REQUEST:
?/C

** DO YOU WISH TO QUERY ON A SPECIFIC VOLUME (V) OR ALL CPY/VOLS (A):
?A

** ENTER CALLNO:
?PS3543 .I26B8

  PS3543 .I26B8
  VIDAL, G
  BURR
  * PUB DATE: 1973
  * HOME LOC: STACKS
  * LOAN PER: 7 (3 WK)
  * ENTRD DB: 18 APR 74
  * DUE DATE: NONE
  * HOLDS   : NONE

-- VOLS DISPLAYED:  1

** DO YOU W ISH TO ENTER NEW REQUEST (YES OR NO).
?Y

** PLEASE ENTER YOUR REQUEST:
?/N

** PLEASE EN TER YOUR COMMENT
** TERMINATE COMMENT BY HITTING RETURN AFTER A "?"
?PLEASE NOTE THAT BROWSE OPTIONS ARE ONLY OFFERED AFTER NATURAL
?LANGUAGE REQUESTS.  BROWSE OPTION IS NOT OFFERED ATER\\\\AFTER
?AUTHOR, TITLE SEARCHES.  IF BROWSING IF DESIRED AFTER SUCH A
?SEARCH \, IT IS BETTER TO REPHRASE A NATURAL LANGUAGE REQUEST
?WITH A SPECIFIC TITLE IN MIND.
?

** DO YOU WISH TO ENTER NEW REQUEST (YES OR NO).
?N

** IT HAS BEEN A PLEASURE SERVING YOU. GOOD AFTERNOON!


** AFTER THE NEXT "!" TYPE IN "OFF", THEN PLEASE TURN OFF
** THE TERMINAL AND HANG UP THE PHONE
```

Figure 8

words, if a natural language request, or keyword, retrieves even one relevant title, it is possible to find other titles, even without the expressed keyword, by browsing in the same classification section as the retrieved relevant title.

c) EXAMINE - User may request a more complete record of item displayed. Additional information displayed will include:

1) Publication date
2) Location: Stacks, Reserve, Reference, etc.
3) Normal loan period: 2-hour, 1-week, 3-weeks, etc.
4) Date of entrance of record into data base
5) Date due
6) Number of holds

The information provided for in (5) and (6) will be available when BARDS is meshed with BLOCS.

SEARCH KEYS

1) NATURAL LANGUAGE - Requests are stated in natural language. The Boolean operators "and", "or", and "not" may be used to expand or limit a search. Parentheses are used to enclose logical groups. A request term must be a word or words, not a string. If an operator is not placed between words "or" is assumed. Subsequent work with users would seem to indicate that an assumed "and" would have been preferable. To reduce the size of the key word index a stopword list of approximately 650 characters, numerals, or terms of nugatory

value in searching (e.g., the, an, to, from, etc.) was added to the data base. Many common words, added on a trial basis, will probably be removed if further testing shows the utility of considering them as keywords. "New" and "problems", for example, now stop words, may be taken from the list because daily journal print-outs indicate that they have been used as search terms by users.

Requested terms are checked against the machine-readable keyword index to find the location of relevant records. The stopword index is also checked if necessary. The number of occurrences of each term and the presence or absence of stopwords is displayed before the Boolean operators are applied and specific records retrieved.

2) AUTHOR or MAIN ENTRY (4-1-1) - User enters at least four letters of surname or first word of entry followed by first letter of next two words. A search of this nature may retrieve false hits, but can be used if it is desired to retrieve all the works of a given author. In an author search the initials of an author's forenames, as established by the LIbrary of Congress, must be used.

3) TITLE (3-1-1-1) - User enters three or more letters of first word of a title followed by first letter of each of the following three words. Initial articles, in foreign languages as well as English, must not be used. This procedure follows filing practice common to most libraries. Search by title alone will probably produce more false drops than any of the other options.

4) AUTHOR/TITLE (3-3) - User enters at least first three letters of both author and title. Since an author/title search is more specific than either author or title, fewer false drops occur. In an author/title search knowledge of forenames is not necessary.

5) LIBRARY OF CONGRESS CARD NUMBER - User enters Library of Congress card number as written--2 digits, hyphen, followed by a maximum of six digits.

6) INTERNATIONAL STANDARD BIBLIOGRAPHIC NUMBER - User enters ISBN as written, including hyphens.

7) CALL NUMBER - User may enter the basic call number for a citation or he may request information on all copies or volumes of a title.

8) COMMENTS - If a user should care to make a comment of his own, anything from an expression of some difficulty to an evaluation of the system, he may enter it after the command "/M". Such comments are recorded and printed in a journal scanned daily by library and computer personnel.

PERFORMANCE MONITORING

In order to test user reaction and to provide feedback on the system, a journal of use is kept and performance monitoring reports generated for all use of BASIS.

The listing of natural language terms used serves several purposes (figure 9). Trouble areas can be spotted: misspellings, misuse of logical operators, use of stopwords, vague or too general

Figure 9

statement of subject desired. The subjects searched also give some indication to the library of current subject interests of the users.

As shown in figure 10 the performance monitoring report produces the following information for each user session:

Name or account number of user

Time of session

Completed or aborted

Retrieves--The number of times user asked for retrieval of bibliographical records

Browses--Number of times the browse option was selected

Total browses--Total number of records scanned through browsing option

Data base I/O--Number of times data base was accessed

Total I/O--Input/output from data base, terminal, journal, file, etc.

Peak core--Maximum core used by BRUIN

Interacts--Number of prompts and responses

Total time--Total elapsed time in clock time in milliseconds

Total number of requests with hits and non-hits by: natural language, author, title, author/title, LC card number, ISBN, call number, borrower ID, and notes or comments

Total number, with minima and maxima, of stopwords, key-words, parentheses, "and", "or", and "not"

CPU--Time of Central Processing Unit

User latency--Time in milliseconds from prompt to response by user, minimum, maximum and total

Figure 10

Computer Latency--Time in milliseconds from user command to computer response, minimum, maximum, and total

Summary statistics and users' comments given for each session are shown in figures 11-12.

CONCLUSION

Because of lack of funds further development of BARDS was suspended in 1975. Even in the early stages of its use it had become clear that the dialog is easy for most users to manipulate. The inclusion of selected government documents in the data base has proved to have been a felicitous decision. (Figure 13) Heretofore, such documents, not listed in the public catalog, were available only if a user were aware of their existence and had consulted the index of the Monthly Catalog of Government Documents for the Superintendent of Documents number (a month by month search in the case of the current year). As librarians know all too well, much valuable material available in government documents is unused because library users often do not search beyond the card catalog. BARDS bypasses the high cost of cataloging documents and filing cards in the card catalog. In order to catalog according to Anglo-American rules, it would be necessary to establish a main entry for each document, not always an easy task. With BARDS, as it is not necessary to establish a main entry, nor even be consistent in the form of entry, a clerk, rather than a cataloger, can enter the necessary information into the data base.

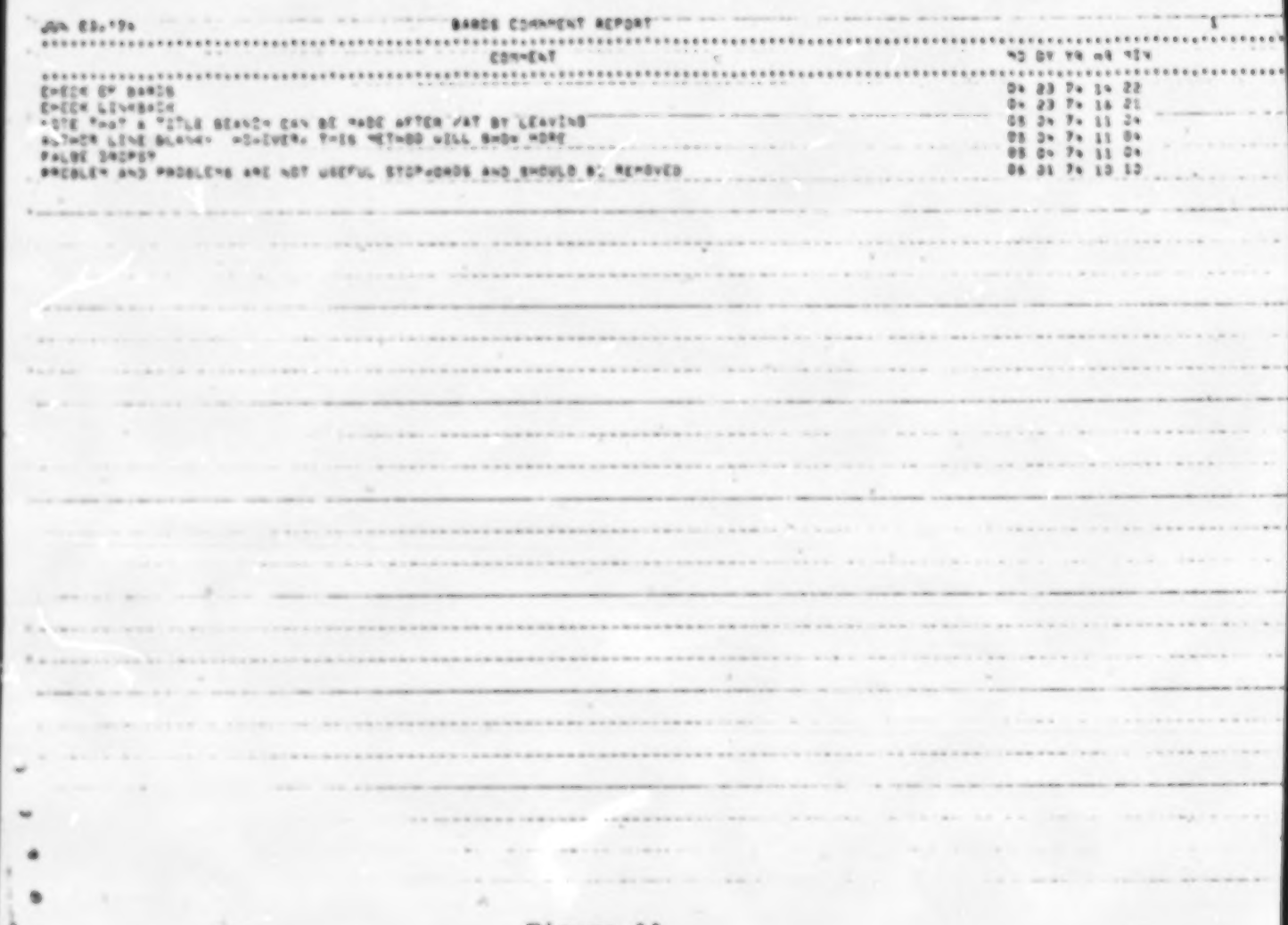

Figure 11

SUMMARY

TOTAL SESSIONS	NON-ABORTS	ABORTS	RETRIEVES	BROWSES	TOTAL BROWSES	DB I/O	TOT I/O	PK CORE	INTERACTS	TOT TIME
7	3	4	30	9	78	332	1788	234	359	15196594

TOTALS	NLAN	AUTH	TITL	AU+T	LC #	ISBN	CALL#	B'WR	NOTE		SWRD	KWRD	TI	ANDS	ORS	NOTS	CPU	ELAT	CLAT
TOT	39	0	3	5	1	1	0	0	8	TOT	6	88	19	35	25	0	87322	9999999	812298
MIT	26	0	3	5	1	1	0	0	0	MIN	0	4	1	1	1	0	1595	215908	15020
M M	11	0	0	0	0	0	0	0	0	MAX	4	25	10	11	11	0	17704	5160508	282550

AVERAGES	NLAN	AUTH	TITL	AU+T	LC #	ISBN	CALL#	B'WR	NOTE		SWRD	KWRD	TI	ANDS	ORS	NOTS	CPU	ELAT	CLAT
TOT	5	0	0	0	0	0	0	0	1	TOT	0	12	2	5	3	0	12483	1803999	116042
MIT	3	0	0	0	0	0	0	0	0	MIN	0	0	0	0	0	0	228	30844	2145
M M	1	0	0	0	0	0	0	0	0	MAX	0	3	1	1	1	0	2529	737215	40364

Figure 12

```
** PLEASE ENTER YOUR REQUEST:
AGING OR AGEING

** TERM **        ** OCCURS **

AGING                    51
AGEING                   10

** SHALL I BEGIN DISPLAYING BOOKS...
?

— N   ETRIEVIN   UR ITEMS...
— I.E.S R   ED: 61

  SHE17.311 :N95/964 -72
  HEW
  NUTRITION & AGING: A SELECTED ANNOTATED BIBLIOGRAPHY, 1964-1972
** NEXT WORK...
?

  HQ1061 .S3X   (VOL/CPY: 2)
  SCOTT, F G
  PERSPECTIVES IN AGING

** NEXT WORK...
?N

— ITEMS DISPLAYED:  2

** DO YOU WISH TO BROWSE (B), EXAMINE LAST WORK DISPLAYED (E),
   ENTER A NEW REQUEST (R), OR QUIT (Q)...
?E

— THERE ARE  2 VOLUMES OR COPIES.

  HQ1061 .S3X
  ØV1
  SCOTT, F G
  PERSPECTIVES IN AGING
  * PUB DATE: 1971
  * HOME LOC: STACKS
  * LOAN PER: 7 (3 WK)
  * ENTRD DB: 13 APR 74
  * DUE DATE: NONE
  * HOLDS   : NONE

** NEXT VOL/CPY...
?

  HQ1061 .S3X
  ØV2
  SCOTT, F G
  PERSPECTIVES IN AGING
  * PUB DATE: NONE
  * HOME LOC: STACKS
  * LOAN PER: 7 (3 WK)
  * ENTRD DB: 13 APR 74
  * DUE DATE: NONE
  * HOLDS   : NONE

— VOLS DISPLAYED:  2
```

Figure 13

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